

WHAT IS CLAIMED IS:

1. A connection detecting connector (10) connectable with a mating connector (40), comprising:

a lock arm (16) extending substantially along an outer surface (11O) of a housing (11), and

a detector (30) at least partly between the housing (11) and the lock arm (16) for movement between a standby position (FIG. 4; 9; 10; 11) and a detection position (FIG. 12; 13; 14; 15), the detector (30) being held at the standby position by engaging the lock arm (16) from an inner side during connection of the connectors (10, 40) and being permitted to move to the detection position when the connectors (10, 40) are properly connected, wherein:

a lock projection (17) for locking the two connectors (10, 40) in their connected state by being engageable with a receiving portion (43) of the mating connector (40) is formed on an outer surface of the lock arm (16), and

at least one locking projection (19R; 19F) on an inner surface of the lock arm (16) for engaging the detector (30) and holding the detector (30) at the standby position.

2. The connection detecting connector of claim 1, wherein: the detector (30) moved to the detection position is prevented from returning to the standby position by the engagement of a resilient locking piece (32) provided in the detector (30) with the inner surface of the lock arm (16).

3. The connection detecting connector of claim 2, wherein a part of the resilient locking piece (32) is exposed to outside at the side of the lock arm (16) and the resilient locking piece (32) can be displaced in such a direction as to be disengaged from the lock arm (16) by bringing a jig (J) into contact with an exposed surface (32s) of the resilient locking piece (32).

4. The connection detecting connector of claim 1, wherein the detector (30) comprises a displacement restricting portion (35) for restricting a displacement of the lock arm (30) in unlocking direction by being at least partly located between the housing (11) and the lock arm (16) with the detector (30) located at or near the detection position.

5. The connection detecting connector of claim 1, further comprising at least one guiding portion (21) for hindering loose movements of the detector (30) along a direction intersecting with moving directions (MD) of the detector (30) while the detector (30) is moved between the standby position and the detection position.

6. The connection detecting connector of claim 5, wherein the detector (30) comprises at least one guidable portion (31) to be guided by the guiding portion (21) at a side of the resilient locking piece (32) substantially opposite from the lock arm (16).

7. The connection detecting connector of claim 6, wherein the guidable portion (31) has a deformation space (34) for avoiding an interference with the resilient locking piece (32) when the resilient locking piece (32) is resiliently deformed in a direction to be disengaged from the lock arm (16).

8. The connection detecting connector of claim 1, wherein at least one locking surface (19Fa; 19Fb; 19Ra; 19Rb) engageable with the resilient locking piece (32) is formed on the inner surface of the lock arm (16), the housing (11) is formed with a retainer accommodating hole (14) for at least partly accommodating a retainer (15) for locking at least one terminal fitting (13) at least partly inserted into the housing (11), and the locking surface (19Fa; 19Fb; 19Ra; 19Rb) is substantially parallel with a mounting direction of the retainer (15) into the retainer accommodating hole (14).

9. A connection detecting connector assembly comprising:

a connection detecting connector (10) according to claim 1 as a first connector (10), and

a second connector (40) connectable with the first connector (10), the first and second connectors (10, 40) being locked in their connected state by engaging an outer side of the lock arm (16) with the second connector (40) with the first and second connectors (10, 40) connected with each other.

10. The connection detecting connector assembly of claim 9, wherein the second connector (40) comprises an auxiliary guiding portion for hindering loose movements of the detecting member along a direction intersecting with the moving directions of the detector while the detector is moved between the standby position and the detection position with the mating connector (40) connected with the connector (10).

11. The connection detecting connector assembly of claim 10, wherein the detector (30) comprises at least one guidable portion (31) to be guided by the guiding portion (21) and the auxiliary guiding portion (44) at a side of the resilient locking piece (32) substantially opposite the lock arm (16).